Preliminary Assessment Mercury/Peeler's Dry Cleaner

(MD-617)



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Region III

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Table of Contents

1.0	INTRODUCTION	1		
1.1	Authorization	1		
1.2	Scope of Work	1		
1.3	Executive Summary	1		
2.0	SITE DESCRIPTION	1		
2.1	Site Ownership and Historical Site Use	8		
2.2	Permitting and Regulatory Actions	8		
2.3	Previous Investigations and Remedial Actions	8		
3.0	ENVIRONMENTAL SETTING	9		
3.1	Water Supply	9		
3.2	Surface Water			
3.3	Soils	14		
3.4	Geology and Groundwater	15		
3.5	Meteorology	17		
3.6	Nearby Land Use and Population Distribution	19		
4.0	WASTE DESCRIPTION	20		
5.0	CONCLUSIONS AND RECOMMENDATIONS	20		
6.0	REFERENCES:	21		
APPENDIX A – SITE PHOTOGRAPHS A				
APPE	NDIX B - AREA SOILS	B		

LIST OF FIGURES

Figure 1: Topographic Map of Area

Figure 2: Location of Mercury/Peeler's Dry Cleaner

Figure 3: Aerial Photo of Mercury/Peeler's Dry Cleaner

Figure 4: Aerial Close-up of Mercury/Peeler's Dry Cleaner

Figure 5: Aerial View of Mercury/Peeler's Dry Cleaner

Figure 6: Mercury/Peeler's Dry Cleaner Land-Use

Figure 7: Watershed Map Mercury/Peeler's Dry Cleaners

Figure 8: TDL Mercury/Peeler's Dry Cleaners

Figure 9: Floodplain Map Mercury/Peeler's Dry Cleaners

Figure 10: Wetlands Map Mercury/Peeler's Dry Cleaners

Figure 11: Soil Complex Map of Riverdale Area

Figure 12: Geological Map of Prince George's County (1968)

Figure 13: Average Annual Precipitation in Maryland

Figure 14: 2 Year 24 Hour Precipitation in Maryland

Figure 15: Land Use Surrounding Mercury/Peeler's Dry Cleaner

LIST OF TABLES

Table 1: Domestic Wells Within Four-Mile Radius

Table 2: Population Distribution Within Four-Mile Radius

1.0 INTRODUCTION

1.1 Authorization

This Preliminary Assessment (PA) was conducted by the Maryland Department of the Environment, Land Management Administration, Land Restoration Program (MDE) under a Cooperative Agreement with the U.S. Environmental Protection Agency (EPA) using the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA).

1.2 Scope of Work

MDE's Federal Assessment and Remediation Division was contracted to conduct a PA of the Mercury/Peeler's Dry Cleaner site (MDN000306838). The objective of this investigation was to collect information concerning conditions at the Dry Cleaner site sufficient to determine the presence or absence of human health and/or environmental hazards at the site and to determine whether further environmental actions at the site are warranted. This PA is not designed to determine the lateral or vertical extent or all locations and types of environmental hazards at the site.

The scope of the PA involves conducting a historical site review to determine past activities and processes that are potential sources of contamination. Furthermore, it involves a review of currently available regulatory records relating to the property and vicinity to identify documented releases of chemicals and determine past operating practices in handling hazardous waste substances and wastes related to site operations.

1.3 Executive Summary

The Mercury/Peeler's Dry Cleaner site is an inactive drycleaner located in the Riverdale section of Prince George's County Maryland. Records indicate that the plant was shut down in August 1997. The site has been completely redeveloped in recent years and the old drycleaner building razed.

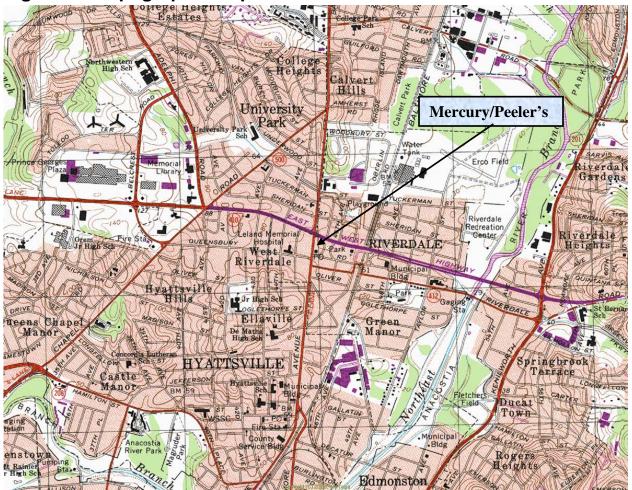
Peeler's of Maryland acquired the property in several plots between 1950 and 1961. Peeler's transferred the property to Roger Carlsen in 1972. Carlsen transferred the property to Riverdale One LLC in 2003. The current owners, Kreitz Corporation acquired the property in 2009. All site buildings were razed and a new bank and shopping complex have been erected over the site.

2.0 SITE DESCRIPTION

The 0.24-acre Mercury/Peeler's Dry Cleaner site is located in Prince George's County at at 6227 Baltimore Blvd. (see Figs. 2 & 3). The roughly rectangular shaped parcel of land is bounded to the north by Route 410, west by route 1, East and South by Beale Circle. The site is comprised of a bank and adjacent commercial/office complex. General surface features consist

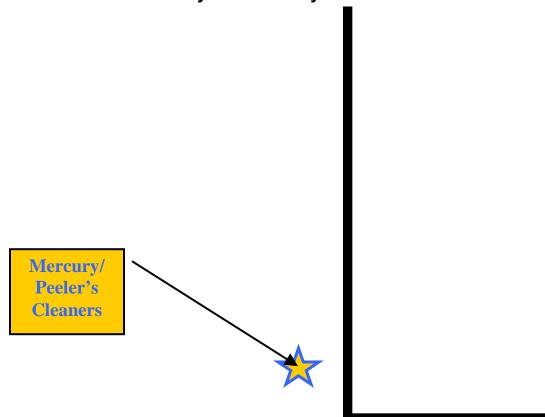
of a relatively flat parcel graded to provide some slope and swale to direct movement of storm waters away from the building structure.

Figure 1 – Topographic Map of Area



The site is situated in a historically commercial strip in a mixed residential/commercial area of Riverdale, Maryland. The site is located west of the Northeast branch of the Anacostia River and is situated 60 feet above mean sea level (Figure 1). The geographic coordinates are latitude 038.9637159° north and longitude 076.9388747° west. The Maryland grid coordinates are north 411,300 feet and east 817,500 feet.

Figure 2: Location of Mercury/Peeler's Dry Cleaner

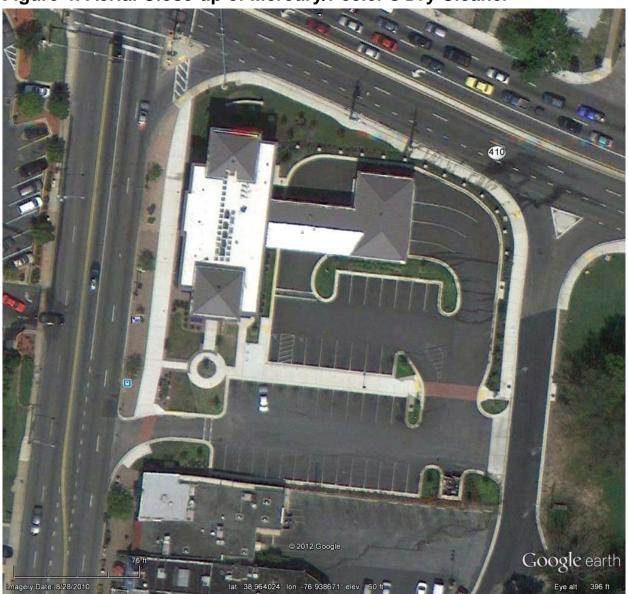


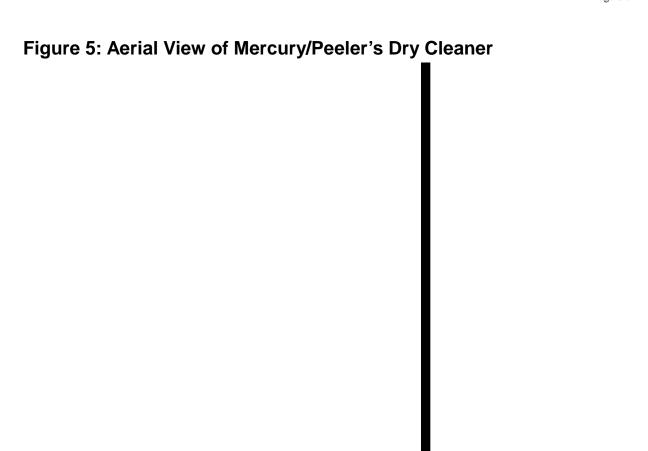
-Queensbury-Rd-Google earth

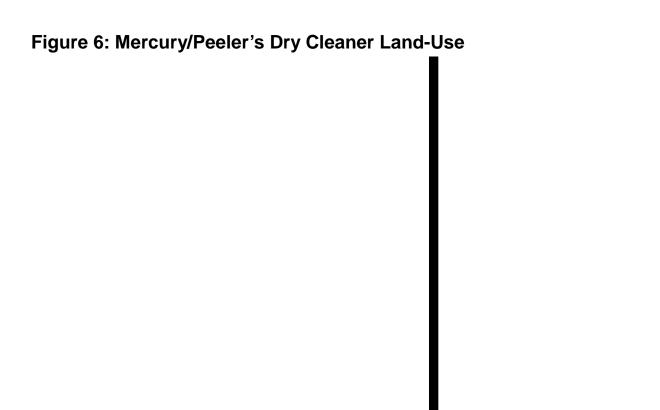
Figure 3: Aerial Photo of Mercury/Peeler's Dry Cleaner

Current View Showing the new parking area and bank structure.

Figure 4: Aerial Close-up of Mercury/Peeler's Dry Cleaner







2.1 Site Ownership and Historical Site Use

Peeler's of Maryland acquired the property in several plots between 1950 and 1961. Peeler's transferred the property to Roger Carlsen in 1972. Carlsen transferred the property to Riverdale One LLC in 2003. The current owners, Kreitz Corporation acquired the property in 2009. All site buildings were razed and a new bank and shopping complex have been erected over the site.

Peeler's Dry Cleaners operated under RCRA permit MDD981111818 and Air Facility System permit number 2403300817. The EPA file identifies PCE and other VOCs being used and stored at the facility. MDE and EPA records indicate that the dry cleaning plant had ceased operation by August 1997. The record is unclear but the facility may have operated for several years after that point as a dry cleaning drop off point. The owner of record at the time of the plant closure was David H. Seung. Mr. Seung was the owner of the business during the period that Mr. Carlsen owned the property on which it was situated.

2.2 Permitting and Regulatory Actions

The Mercury/Peeler's Dry Cleaner site was listed on CERCLIS as a result of the Dry Cleaning Initiative (DCI). Mercury/Peeler's was identified in the DCI as a level 2 site, a site that operated for approximately 50 years or greater.

2.3 Previous Investigations and Remedial Actions

EPA Air Program inspected the facility and updated its status in March 2008. The site was noted to have ceased operation as a dry cleaning plant in August 1997. The facility's RCRA status was last updated in September 2000.

There no records of Phase I or II environmental assessments being performed on the property.

3.0 ENVIRONMENTAL SETTING

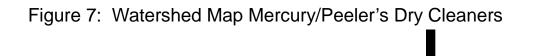
The pathways addressed in the PA are groundwater, surface water, soil and air. Targets are physical or environmental receptors that are within the target distance limit for the pathway. A primary target is designated as one with a high likelihood of exposure to a hazardous substance and a secondary target is designated as one with a relatively low likelihood of exposure to a hazardous substance.

3.1 Water Supply

The groundwater pathway assessment addresses hazardous substance migration to and within aquifers and potential threats to targets such as drinking water supplies. The target population is the human population associated with the site and/or its targets. The target distance limit for groundwater is a four-mile radius around the site.

The majority of the population within a four-mile radius of the Dry Cleaner facility relies on municipal supplies from the Washington Suburban Sanitary Commission (WSSC). Presently, the water supplied to the residents of Riverdale and adjacent areas is produced at four reservoirs, Triadelphia, Rocky Gorge, Little Seneca and Jennings Randolph, and processed through two water filtration plants, the Patuxent and the Potomac plants.

There are no wells used for drinking water within a half-mile of the site. Almost all of the wells within a four-mile radius of the site are used for industry or monitoring purposes; however, MDE well database records do show that six domestic wells may still be in use within the two to four-mile radius of the site. Based on current census records, there are approximately 16 people using private drinking water wells within 4 miles of the site. The estimated number of individual domestic wells and the estimated population served by these wells is outlined in Table 1.



Distance from Site (Miles)	Number of Domestic Wells	Estimated Population Served *	Distance from Site (Miles)	Population Served by WSSC Municipal System
0 - 0.25	0	0	0 - 0.25	515
0.25 - 0.50	0	0	0.25 - 0.50	3448
0.50 - 1	0	0	0.50 - 1	15,807
1 - 2	1	3	1 - 2	64,981
2 - 3	3	8	2 - 3	91,845
3 - 4	2	5	3 - 4	117,306
TOTAL	6	16	TOTAL	293,920

Table 1: Domestic Wells and Municipal Service Within Four-mile Radius

3.2 Surface Water

The surface water pathway addresses hazardous substance migration to surface water bodies, drinking water supplies, the human food chain and sensitive environments. The target population consists of those people who use surface water for drinking water or consume food chain species from target fisheries. The target distance limit for the surface water pathway is 15 miles downstream from the probable point of entry (PPE).

The site is located in the Anacostia River Drainage Basin. The nearest surface water body is an unnamed tributary to the Northeast Branch of the Anacostia River, the distance from the site to the PPE is 1300 feet. The unnamed tributary flows 3100 feet to its confluence with the Northeast Branch of the Anacostia River. The 15-mile surface water target distance limit (TDL) from the PPE flows through the Anacostia River to the Potomac River and ends in the Potomac River Estuary between Fox Ferry Point and Jones Point.

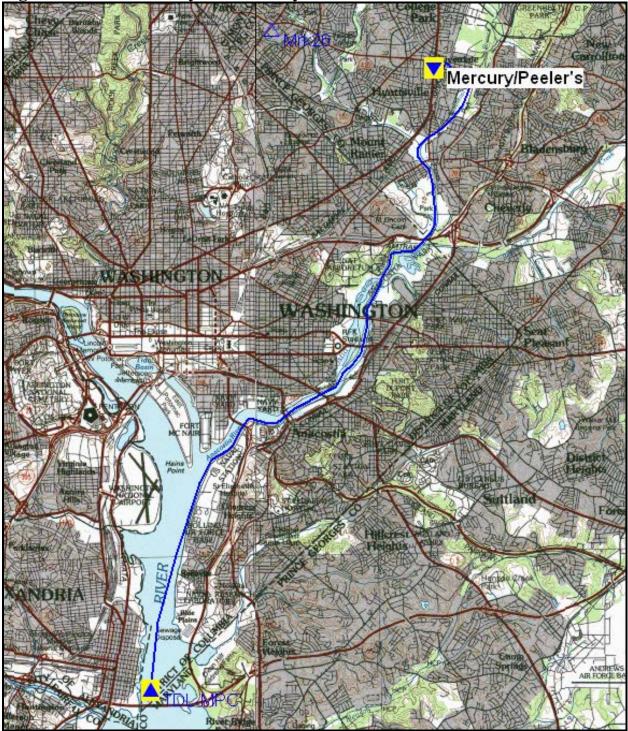
WSSC relies on water from Triadelphia and T. Howard Duckett Reservoirs for their service. These reservoirs are not associated with the 15-mile TDL. Surface water is not used as a potable source in the vicinity of the site. The nearest surface water intake is located on the Potomac River above Great Falls, approximately 12.5 miles to the west of the site.

According to Maryland Department of Natural Resources (DNR) personnel, fishing occurs within the small creeks that drain into the Potomac River. EPA documents indicated that the surface water TDL is utilized by bald eagles.

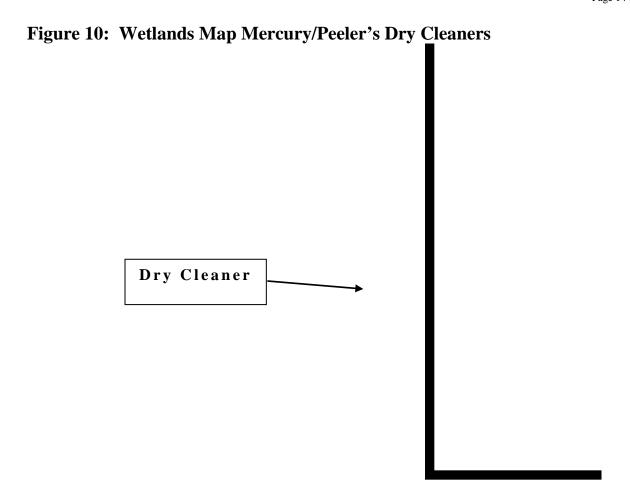
The site is located outside the 100-year floodplain as shown in Figure 9. Palustrine and riverine wetlands are found along the upper reaches of the Anacostia River and its tributaries (Fig. 10).

^{*} http://quickfacts.census.gov indicates 2.61 person's per household (Census 2000)

Figure 8: TDL Mercury/Peeler's Dry Cleaners







3.3 Soils

Several soil Associations are found in the Riverdale area surrounding the site (Fig. 11). These include Beltsville-Urban land complex, Christiana-Downer-Urban land complex, Issue-Urban land complex, Russett-Christiana-Urban land complex, Sassafras-Urban land and undefined Urban land. The land under the site is unclassified Urban Land. Urban land has a

high run-off potential and is classed hydrologically as such. The various complexes are a mix of urban land and the several associated naturally occurring soil groups in the area. The Mercury/Peeler's site has been an urban complex since Riverdale was first incorporated in 1879. Concrete and asphalt cover much of the exposed space. The area has been worked extensively by man.

West Hy Tokeman St.

West Hy Tokeman St.

Remain St.

Remain R.

R

Figure 11: Soil Complex Map of Riverdale Area

BuB Beltsville-Urban land complex, 0 to 5 percent slopes
CdD Christiana-Downer-Urban land complex, 5 to 15 percent slopes
Iu Issue-Urban land complex, occasionally flooded
RuB Russett-Christiana-Urban land complex, 0 to 5 percent slopes
SnB Sassafras-Urban land complex, 0 to 5 percent slopes
Un Urban land
UrbBUrban land-Beltsville complex, 0 to 5 percent slopes
UrcDUrban land-Christiana-Downer complex, 5 to 15 percent slopes

3.4 Geology and Groundwater

Riverdale lies within the Atlantic Coastal Plain physiographic province. Unconsolidated deposits of gravel, sand, silt and clay that range in age from Cretaceous to Recent underlie the Atlantic Coastal Plain. Riverdale is in the central part of Prince George's County on a partly dissected low plateau that is nearly level to gently sloping.

The site lies within the Western Shore Uplands Region of the Coastal Plain Province of Maryland. The Coastal Plain Province is underlain by a wedge of unconsolidated sediments including gravel, sand, silt, and clay, which overlaps the rocks of the eastern Piedmont along an irregular line of contact known as the Fall Zone. Eastward, this wedge of sediments thickens to more than 8,000 feet at the Atlantic coastline. The sediments of the Coastal Plain dip eastward at a low angle, generally less than one degree, and range in age from Triassic to Quaternary. The younger formations crop out successively to the southeast across Southern Maryland and the Eastern Shore. A thin layer of Quaternary gravel and sand covers the older formations throughout much of the area (Fig. 12).

Groundwater supplies the needs of the more rural areas of the county, but the WSSC supplies the majority of the water used in the Riverdale area from surface-water sources. The principal groundwater aquifers in the region are the Patapsco and Patuxent Formations. Shallow groundwater flow follows area topography and is estimated to be to the Southeast.

Mercury/Peeler's Dry Cleaner.

Figure 12: Geological Map of Prince George's County (1968)

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Lowland Deposits - Gravel, sand, silt and clay. Medium- to coarse-grained sand and gravel; cobbles and boulders near base; commonly contains reworked Eocene glauconite; varicolored silts and clays; brown to dark gray lignitic silty clay; contains estuarine to marine fauna in some areas (includes in part Pamlico, Talbot, Wicomico and Sunderland Formations of earlier reports); thickness 0 to 150 feet.

Кр

Potomac Group - Interbedded quartzose gravels; protoquartzitic to orthoquartzitic argillaceous sands; and white, dark gray and multicolored silts and clays; thickness 0 to 800 feet.

3.5 Meteorology

Riverdale, Maryland lies at the western edge of the middle Atlantic coastal plain, about 80km east of the Blue Ridge Mountains and 55km west of the Chesapeake Bay.

Summers are warm and sometimes humid and the winters are mild. Especially pleasant weather prevails in the spring and autumn. The coldest weather occurs in late January and early February, with an average daily maximum temperature of 7 °C (45 °F) and an average daily minimum of –2 °C (28 °F). The warmest weather occurs in late July, when daily high temperatures commonly exceed 30 °C (86 °F). There are no well-defined wet and dry seasons. Snowfall is not common, and averages only about 43cm (17in) per winter season. During the summer, showers are frequent. Thunderstorms occur on about one of every five days. Significant temperature differences within the Washington metropolitan area are not unusual. Temperatures are commonly from 5° to 8 °F warmer at the Washington National airport, due to the heat island effect of the city in the summer and the moderating influence of the Potomac River in winter.

Prevailing winds in the Baltimore/Washington area are from a west-northwest direction at 7 miles per hour with a slight seasonal variation. Winds are more from the northwest in the winter and from the southwest in the summer. Coastal storms may produce heavy rain in the warmer months and heavy snow in the colder months in addition to high winds and coastal flooding. Thunderstorms may become severe and produce heavy rains, high winds, and hail. Precipitation is evenly distributed throughout the year (Fig. 13). Normal yearly precipitation is 44.66 inches with an annual snowfall of 21.6 inches. July is the wettest month with 4.18 inches of precipitation, and April is the driest month with a normal precipitation of 3.06 inches. The two year twenty-four hour precipitation is between 3.0 and 3.5 inches (Figure 14).

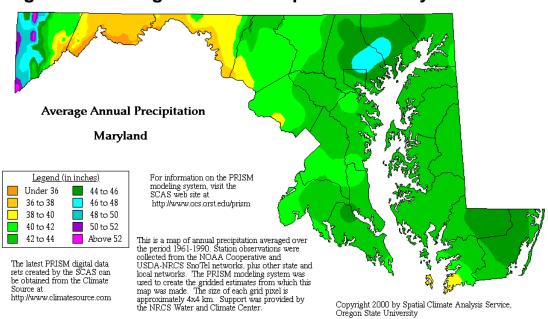
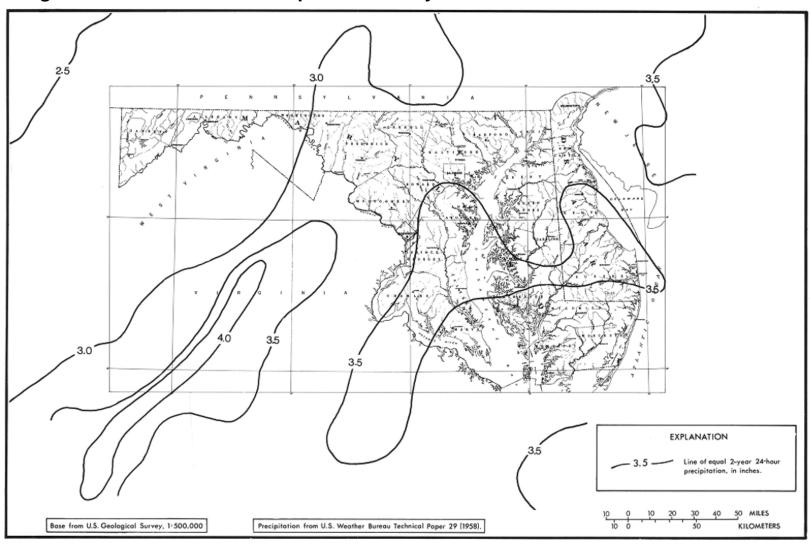


Figure 13: Average Annual Precipitation in Maryland

Figure 14: 2 Year 24 Hour Precipitation in Maryland



3.6 Nearby Land Use and Population Distribution

The target distance limit for the soil exposure pathway is 200 feet for resident population and one mile for the nearby population. The pathway for soil exposure accounts for the potential threat to people on or near the site who may come into contact with exposed materials and areas of suspect contamination. This includes both ingestion and dermal exposure.

The Mercury/Peeler's Dry Cleaner site is an inactive dry cleaning facility located in an urban residential/commercial area in Riverdale, Montgomery County Maryland. There are a number of residential buildings within 200 feet of the site as shown in Figure 15, with an estimated population of 19,770 residents within one mile of the site.

Figure 15: Land Use Surrounding Mercury/Peeler's Dry Cleaner



Table 2: Population Distribution Within Four-Mile Radius

Ring Distance from the Site (Miles)	Estimated Population
0 - 0.25	515
0.25 - 0.50	3448
0.50 - 1	15,807
1-2	64,984
2-3	91,853
3 - 4	117,311
TOTAL	293,918

4.0 WASTE DESCRIPTION

Both chlorinated solvents and petroleum solvents have been used as dry cleaning solvents and in the printing and publishing industry. These solvents include PCE, TCE, TCA, Freon 113 and mineral spirits.

Mercury/Peeler's was a dry cleaning facility that operated in a residential neighborhood for greater than 50 years. Several petroleum based dry-cleaning fluids were known to have been used during that period including PCE and the various other volatile organic dry cleaning compounds.

PCE and its daughter products are commonly found as contaminants at facilities that use or have used petroleum dry cleaning solvent. There are several possible sources for the PCE: bacterial inhibitor in soaps, spotting agents, and as a carrier in sizing and in waterproofing operations.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Mercury/Peeler's Dry Cleaner operated on the site from 1950 till 2008. The dry cleaning facility no longer exists. Records indicate that the dry cleaning plant ceased operation in 1997 but that the site continued to operate as a dry cleaner until 2008. The site is now part of a parking lot for a bank. The site is surrounded by residential buildings, a number of which are within 200 feet of the site.

Neither groundwater nor surface water is used as a potable source in the vicinity of the site; therefore there is no target pathway for drinking water. The only environmental concern would be from vapor intrusion due to a contaminated groundwater plume. Since the facility operated for a long period and there is no record of Phase I or II environmental assessments performed on the site, MDE recommends that a Tier 1 Vapor Intrusion study be performed to define number of households potentially impacted by the Mercury/Peeler's groundwater plume.

6.0 REFERENCES:

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- I. Roy F. Weston, Inc. Trip Report Dry Cleaner & Son's Site; May 14, 1998
- J. Terrain Navigator Digital 7.5 minute Topographic Quadrangles, Washington East Quadrangle 1982R
- K. USEPA EnviroMapper Database; Flood Plain Map 20743 Zip Code.
- L. USDA Soil Conservation Service, Soil Survey Prince George's County, 1967
- M. University of Maryland, Department of Meteorology. http://www.atmos.umd.edu/~climate/pg.html
- N. Washington Suburban Sanitary Commission; History of WSSC 2004.
- O. USDA Soils Mapper http://soils.usda.gov/contact/nssc/

APPENDIX A – SITE PHOTOGRAPHS



Lot From Rt. 1



Lot From Circle



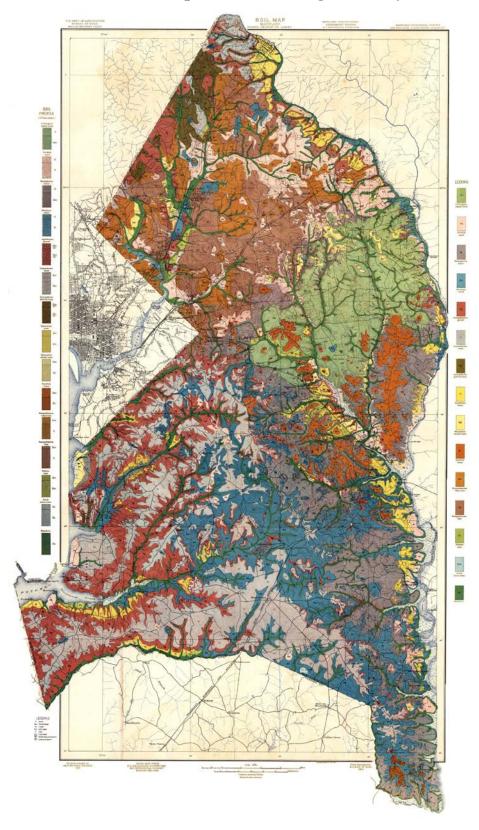
Rt. 1 Shops Facade



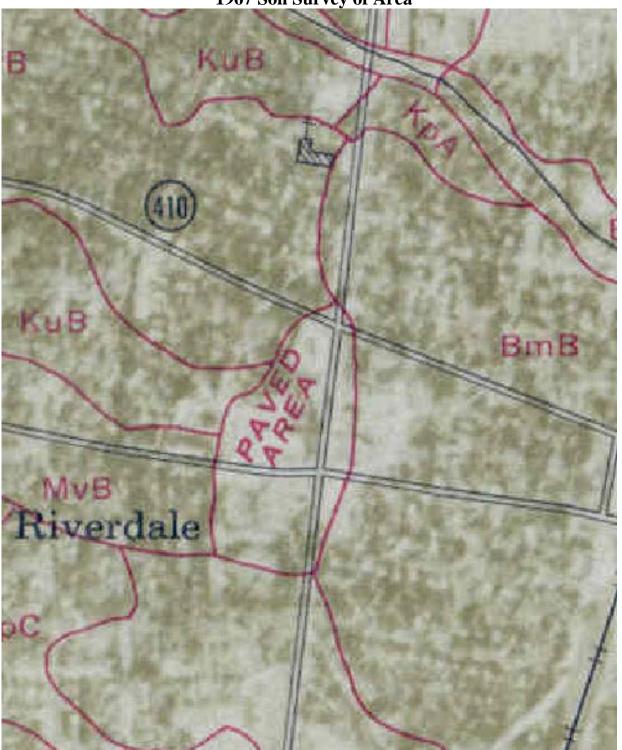
Rt. 1 Shops Facade

APPENDIX B - AREA SOILS

1901 Soil Map of Prince Georges County







Beltsville-Urban land complex, 0 to 5 percent slopes (BmB).—This complex consists of Beltsville soils and disturbed land that is mainly of Beltsville soil material. These areas are used for community development. They have been rearranged into complex patterns on the land-scape. Although the single soils can be recognized, mapping them separately is impractical. About 25 percent of each area mapped as this complex consists of Beltsville soils similar to the soil described as typical of the series. The remainder of the acreage consists of Beltsville soils that have been severely disturbed or altered by man.

On about 60 percent of each area, the Beltsville soils are covered with as much as 18 inches of soil material or have had as much as two-thirds of the original soil profile removed. The surface layer of these severely disturbed areas has variable texture and may be fine sandy loam, silt loam, or a mixture of sand, silt, and clay in any proportion.

About 15 percent of this unit consists of land fills, 18 inches or more in depth, or places where most of the Beltsville soil profile has been cut away. The surface layer here is either a mixture of sand, silt, and clay in various proportions, or it is a dense hardpan of silty and clayey materials. (Drainage group 6–1A; capability unit, irrigation group, and woodland group not assigned)

Keyport-Urban land complex, 0 to 10 percent slopes (KuB).—This complex consists of Keyport soils and disturbed land that is mainly of Keyport soil material. These soils are used for community developments. From 15 to 20 percent of each area mapped as this complex consists of Keyport soils that have a silt loam or fine sandy loam surface layer. About 50 percent consists of Keyport soils that have been covered with as much as 18 inches of fill material or has had as much as two-thirds of the original soil profile removed. The rest is land areas covered with fill material, more than 18 inches thick, or areas where nearly all of the Keyport soil profile has been cut away. The fills have variable texture, and the exposed cuts are rich in clay in most places. (Drainage group 6-2A; capability unit, irrigation group, and woodland group not assigned)